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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,217	06/05/2006	Kenneth R. Whight	GB 030217	3661

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BRIARCLIFF MANOR, NY 10510

EXAMINER

ZUBAJLO, JENNIFER L

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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06/10/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,217	Applicant(s) WHIGHT, KENNETH R.	
	Examiner JENNIFER ZUBAJLO	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/31/10</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ronald S. Cok (Pub. No.: US 2006/0077135 A1).

As to claim 1, Cok teaches a method of correcting video data signals for addressing an active matrix display device, the device comprising a power line arranged to supply current to n electroluminescent display elements (see [0037] and not that it would be obvious for the same method to be supplied to EL display elements because EL displays have the same driving as LEDs or OLEDs), the current supplied to each element being controllable by a respective drive transistor (see [0037] and [0063]), each drive transistor being addressable by video data signals and having an electrical characteristic parameter X (see [0037] and [0063] and note that it is well known that tfts have electrical characteristic parameters), the method comprising the steps of: (i)-- storing an X value for each drive transistor (see [0037] and note that electrical characteristic parameters are known to tfts, it would be obvious to store these values to

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use in calculations for correcting video signals); (ii)--receiving a set of video data signals, each having a value v_d (see fig. 4 – image signals 18); (iii)--determining from the stored X values and the received v_d values an expected current through the power line i_p using a model which relates the power line current to the v_d and X values of the drive transistors (see [0037]); (iv)--measuring the current i_m through the power line when the drive transistors are each addressed with the received set of video data signals (see [0037] and [0046]); (v)--calculating the difference g between the expected current i_p and the measured current i_m (see [0035], [0046], and fig. 4); (vi)--repeating steps (ii) to (v) for at least $n-1$ further sets of video data signals (see [0046]); (vii)--calculating an X value for each transistor using the calculated g values (see [0035], [0046], and fig. 4); (viii)--replacing the stored X values with the calculated X values (see [0046]); and (ix)--correcting subsequent video data signals in accordance with the stored X values (see Abstract and fig. 4).

As to claim 9, Cok teaches an apparatus for correcting video data signals for addressing an active matrix display device, the device comprising a power line arranged to supply current to n electroluminescent display elements (see [0037] and not that it would be obvious for the same method to be supplied to EL display elements because EL displays have the same driving as LEDs or OLEDs), the current supplied to each element being controllable by a respective drive transistor (see [0037] and [0063]), each drive transistor being addressable by video data signals each having a value v_d and having an electrical characteristic parameter X (see [0037] and [0063] and note that it is

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well known that tfts have electrical characteristic parameters), the apparatus comprising means for storing an X value for each drive transistor (see [0028] and [0046]); means for applying a model to determine an expected current through the power line using the stored X values and video data signal values v_d (see [0046] and note that it would be obvious that the lookup table information was obtained from a model); means for measuring the current through the power line (see [0027]); means for applying an algorithm to said expected current and said measured current for a plurality of sets of video data signals to determine X values for each drive transistor (see [0046] and fig. 4); correction circuitry for modifying received video data signals in accordance with the stored X values (see [0046] and fig. 4).

As to claim 2, Cok teaches a method according to claim 1 (see above rejection), wherein the method further comprises the steps of: (x)--storing the g values in a column vector G having a length n; and, (xi)--performing an iterative Newton Linearisation process using vector G to obtain an X value for each transistor (note that performing an iterative Newton Linearisation process is well known in the art and therefore would be obvious to use).

As to claim 3, Cok teaches a method according to claim 2 (see above rejection), wherein said Newton Linearisation process includes the steps of: (xii)--differentiating vector G to obtain an $n \times n$ matrix G' ; (xiii)--solving the equation: $G'(X) \cdot \Delta X = -G(X)$ for ΔX ; (xiv)--calculating an updated value for X for each transistor according to

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.delta.X; (xv)--calculating updated g_i values using the updated X value; and, (xvi)--repeating steps (xii) to (xv) until the g values are within a predetermined range around zero (see fig. 4 and note that the Newton Linearisation process is well known in the art and therefore would be obvious to use).

As to claim 4, Cok teaches a method according to claim 1 (see above rejection), wherein said sets of video data signals have predetermined values V_d to enable successful calculation of said X values in step (vii) (see fig. 4 – image signals 18).

As to claim 5, Cok teaches a method according to claim 1 (see above rejection), wherein steps (ii) to (vii) are repeated periodically (see [0046]).

As to claim 6, Cok teaches a method according to claim 1 (see above rejection) carried out in response to the switching on of said display device (see fig. 4).

As to claim 7, Cok teaches a method according to claim 1 (see above rejection), wherein said electrical characteristic parameter X is the threshold voltage v_t of the transistor (note that it is well known in the art for transistors to have threshold voltages as a characteristic parameter).

As to claim 8, Cok teaches a method according claim 7 (see above rejection), wherein said model is based upon the relationship given by the equation: $i_{LED} = K(v_d - v_t)^2$

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in which I_{LED} is the current controlled by one drive transistor and K is a constant (note that this is a well known equation and would be obvious to use).

As to claim 10, Cok teaches an integrated circuit chip comprising the apparatus according to claim 9 (see fig 4).

As to claim 11, Cok teaches an active matrix display device comprising a plurality of power lines, each arranged to supply current to a respective plurality of electroluminescent display elements (see [0037] and not that it would be obvious for the same method to be supplied to EL display elements because EL displays have the same driving as LEDs or OLEDs), the current supplied to each element being controllable by a respective drive transistor (see [0037] and [0063]), each drive transistor being addressable by respective video data signals (see fig. 4 – image signals 18), wherein the display device further comprises apparatus according to claim 9 for correcting video data signals supplied to said transistors associated with each power line (see [0046] and fig. 4).

Response to Arguments

3. Applicant's arguments filed 3/19/10 have been fully considered but they are not persuasive.

Applicant argues that "Cok2 fails to teach that the "given signal" is comparable to the video data signal, as recited in the claims." Examiner disagrees (see fig. 4 and p.5

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[0046]-[0047] – “corrects the input image signal” which is the same as the claimed video data signal).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pub. No: US 2006/0087588 and Pub. No.: US 2004/0150590.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER ZUBAJLO whose telephone number is (571)270-1551. The examiner can normally be reached on Monday-Friday, 8 am - 5 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571) 272-7674. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer Zubajlo/
Examiner, Art Unit 2629
5/29/10

/Amare Mengistu/

Supervisory Patent Examiner, Art Unit 2629